

IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

1. (currently amended) An oil-in-water lipid emulsion for delivering biologically active material selected from the group consisting of DNA, RNA, antisense nucleic acid, ribosome, polynucleotide and oligonucleotide, said emulsion comprising: 2-30% of non-triglyceride oil; 0.01-20% of one or more cationic lipid transfection agent agents; and[[,]] water to 100%.
2. (currently amended) Solid-lipid nanoparticles for delivering biologically active material selected from the group consisting of DNA, RNA, antisense nucleic acid, ribosome, ~~polynucleotide~~ polynucleotide and oligonucleotide, said nanoparticles comprising: 2-30% of fat of triglycerides having 10-18 carbons in each hydrophobic tail or ethyl stearate; 0.01-20% of one or more cationic lipid transfection agent agents; and[[,]] water to 100%.

Claims 3-4 (canceled)

5. (currently amended) A method of preparing an oil-in-water lipid emulsion for delivering biologically active material selected from the group consisting of DNA, RNA, antisense nucleic acid, ribosome, polynucleotide and oligonucleotide, said method comprising: a) ~~a first step of~~ preparing an aqueous phase by mixing 0.01-20% of one or more cationic lipid transfection agent agents with water and b) ~~a second step of preparing emulsion of~~ emulsifying said aqueous phase with 2-30% of non-triglyceride oil.
6. (currently amended) A method of preparing solid lipid nanoparticles for delivering biologically active material selected from the group consisting of DNA, RNA, antisense nucleic acid, ribosome, polynucleotide and oligonucleotide, said method comprising: a) ~~a first step of~~ preparing an aqueous phase by mixing 0.01-20% of one or more cationic lipid transfection agent agents with water and b) ~~a second step of~~ mixing said aqueous

phase with 2-30% of fat of triglycerides having 10-18 carbons in each hydrophobic tail or ethyl stearate.

Claims 7-8 (canceled)

9. (original) The emulsion according to claim 1, further comprising 0.01-10% of a hydrophilic polymer or hydrophilic polymeric lipid.

10. (currently amended) The emulsion according to claim 1, wherein the non-triglycerides triglyceride oil is squalene or squalane.

11. (previously presented) The emulsion according to claim 1, further comprising a phospholipid or a non-ionic surfactant.

12. (previously presented) The emulsion according to claim 1, wherein the cationic lipid transfection agent is selected from the group consisting of:

- 1,2-dimyristoyl-3-trimethylammonium-propane,
- 1,2-dipalmitoyl-3-trimethylammonium-propane,
- 1,2-distearoyl-3-trimethylammonium-propane,
- 1,2-dioleoyl-3-trimethylammonium-propane,
- 1,2-dimyristoyl-3-dimethylammonium-propane,
- 1,2-dipalmitoyl-3-dimethylammonium-propane,
- 1,2-dilauroyl-3-dimethylammonium-propane,
- 1,2-distearoyl-3-dimethylammonium-propane,
- 1,2-dipalmitoyl-3-trimethylammonium-propane,
- N-[1-(1,2-dioleoyloxy)propyl]-N,N,N-trimethylammonium chloride,
- 1,2-dioleoyl-3-ethylphosphocholine, and other cationic lipids.

13. (previously presented) The emulsion according to claim 1, further comprising glycerol or fusogenic peptides.

14. (currently amended) The emulsion according to claim 13, wherein the fusogenic peptide is polyethylene glycol of MW[[.]] 500-1000 or HA gp 41.

15. (original) The emulsion according to claim 9, wherein the hydrophilic polymer is selected from the group consisting of polyoxyethylene, polyethyloxazoline and polyethyleneglycol.

16. (currently amended) The emulsion according to claim 11, wherein the phospholipid is selected from the group consisting of ~~phosphatidylcholine~~ phosphatidylcholine, phosphatidylethanolamine, phosphatidylserine, diacetylenic phospholipid and derivative thereof and the non-ionic surface active agent is selected from the group consisting of poloxamer, sorbitan ester, polyoxyethylene-sorbitan fat acid ester and polyoxyethylene ethers.

17. (previously presented) The emulsion according to claim 1, further comprising 1,2-dioleoyl-sn-3-phosphatidylethanolamine, diolein, fatty alcohol, cholesterol or bile salt.

18. (original) The solid lipid nanoparticles according to claim 2, further comprising 0.01-10% of a hydrophilic polymer or hydrophilic polymeric lipid.

19. (previously presented) The solid lipid nanoparticles according to claim 2, further comprising a phospholipid or a non-ionic surfactant.

20. (currently amended) The solid lipid nanoparticle according to claim 2, wherein the cationic lipid transfection agent is [[is]] selected from the group consisting of:

- 1,2-dimyristoyl-3-trimethylammonium-propane,
- 1,2-dipalmitoyl-3-trimethylammonium-propane,
- 1,2-distearoyl-3-trimethylammonium-propane,
- 1,2-dioleoyl-3-trimethylammonium-propane,

1,2-dimyristoyl-3-dimethylammonium-propane,
1,2-dipalmitoyl-3-dimethylammonium-propane,
1,2-dilauroyl-3-dimethylammonium-propane,
1,2-distearoyl-3-dimethylammonium-propane,
1,2-dipalmitoyl-3-trimethylammonium-propane,
N-[1-(1,2-dioleoyloxy)propyl]-N,N,N-trimethylammonium chloride,
1,2-dioleoyl-3-ethylphosphocholine, and other cationic lipids.

21. (previously presented) The solid lipid nanoparticles according to claim 2, further comprising glycerol or fusogenic peptides.

22. (currently amended) The solid lipid nanoparticles according to claim 21, wherein the fusogenic peptide is polyethylene glycol of MW[[.]] 500-1000 or HA gp 41.

23. (original) The solid lipid nanoparticles according to claim 18, wherein the hydrophilic polymer is selected from the group consisting of polyoxyethylene, polyethyloxazoline and polyethyleneglycol.

24. (currently amended) The solid lipid nanoparticles according to claim 19, wherein the phospholipid is selected from the group consisting of ~~phosphatidylcholine~~
phosphatidylcholine; phosphatidylethanolamine, phosphatidylserine, diacetylenic phospholipid and derivative thereof and the non-ionic surface active agent is selected from the group consisting of poloxamer, sorbitan ester, polyoxyethylene-sorbitan fat acid ester and polyoxyethylene ethers.

25. (currently amended) The solid lipid nanoparticles according to claim 2, further comprising 1,2-dioleoyl-sn-3-phosphatidylethanolamine, diolein, fatty alcohol, cholesterol or ~~[[bild]]~~ bile salt.

Claims 26-51 (canceled)

52. (currently amended) A complex of the emulsion according to claim 1, and a biologically active material selected from the group consisting of DNA, RNA, antisense nucleic acid, ribosome, ~~polynucleotide~~ polynucleotide, and oligonucleotide.

53. (original) The complex according to claim 52, further comprising glycolipid, lipopeptide, antibody, ligand for receptors or viral protein to target specific cells or organs.

54. (previously presented) The complex according to claim 52, further comprising protamine sulfate, histone or cationic polymer.

55. (original) The complex according to claim 54, wherein cationic polymer is polylysine.

56. (original) The complex according to claim 52, further comprising monovalent or multivalent salt.

57. (currently amended) The complex according to claim 53, wherein the cell is selected from the group consisting of white blood cells, fibroblasts, cancer cells, cells infected with virus, epithelial cells, endothelial cells, muscle cells, liver cells, endocrine cells, neural cells, dermal cells, germ cells, oocytes, sperms, hematopoietic cells, fetal cells, M cells, Langerhans islet cells, ~~macrophages~~ macrophages, plant cells, animal cells, and immortalized cell lines.

58. (original) The complex according to claim 52, wherein the complex is transferred to cells via intravenous, intramuscular, intratracheal, intranasal, subcutaneous, parenteral or topical administration or through direct administration to a specific organ.

Claim 59 (canceled)

60. (previously presented) The complex according to claim 52, further comprising lipophilic or amphiphilic drug in an oil phase, wherein the lipophilic or amphiphilic drug is selected from the group consisting of antivirals, steroidal anti-inflammatory drugs, non-steroidal anti-inflammatory drugs, antibiotics, antifungals, vitamins, hormones, retinoic acid, prostaglandins, prostacyclins, anticancer drugs, antimetabolite drugs, mitotics, cholinergics, adrenergic antagonists, anticonvulsants, antianxiety agents, major tranquilizers, antidepressants, anesthetics, analgesics, anabolic steroids, estrogens, progesterones, glycosaminoglycans, polynucleotides, immunosuppressants and immunostimulants.

61. (previously presented) The complex according to claim 60 wherein the anticancer drug is taxol, paclitaxel or fluorouracil.

62. (previously presented) A complex of the solid lipid nanoparticles according to claim 2, with a biologically active material selected from the group consisting of DNA, RNA, antisense nucleic acid, ribosome, polynucleotide and oligonucleotide.

63. (original) The complex according to claim 62, further comprising glycolipid, lipopeptide, antibody, ligand for receptors or viral protein to target specific cells or organs.

64. (previously presented) The complex according to claim 62, further comprising protamine sulfate, histone or cationic polymer.

65. (original) The complex according to claim 64, wherein the cationic polymer is polylysine.

66. (original) The complex according to claim 62, further comprising monovalent or multivalent salt.

67. (currently amended) The complex according to claim 63, wherein the cell is selected from the group consisting of white, blood cells, fibroblasts, cancer cells, cells infected with virus, epithelial cells, endothelial cells, muscle cells, liver cells, endocrine cells, neural cells, dermal cells, germ cells, oocytes, sperms, hematopoietic cells, fetal cells, M cells, Langerhans islet cells, ~~macrophages~~ macrophages, plant cells, animal cells, and immortalized cell lines.

68. (original) The complex according to claim 62, wherein the complex is transferred to cells via intravenous, intramuscular, intratracheal, intranasal, subcutaneous, parenteral or topical administration or through direct administration to a specific organ.

69. (previously presented) The complex according to claim 62, further comprising lipophilic or amphiphilic drug in the fat, wherein the lipophilic or amphiphilic drug is selected from the group consisting of antivirals, steroidal anti-inflammatory drugs, non-steroidal anti-inflammatory drugs, antibiotics, antifungals, vitamins, hormones, retinoic acid, prostaglandins, prostacyclins, anticancer drugs, antimetabolite drugs, mitotics, cholinergics, adrenergic antagonists, anticonvulsants, antianxiety agents, major tranquilizers, antidepressants, anesthetics, analgesics, anabolic steroids, estrogens, progesterones, glycosaminoglycans, polynucleotides, immunosuppressants and immunostimulants.

70. (previously presented) The complex according to claim 69, wherein the anticancer drug is taxol, paclitaxel or fluorouracil.

71. (original) The method according to claim 5, wherein the aqueous phase further comprises 0.01-10% of a hydrophilic polymer or hydrophilic polymeric lipid.

72. (original) The method according to claim 6, wherein the aqueous phase further comprises 0.01-10% of a hydrophilic polymer or hydrophilic polymeric lipid.

Claims 73-74 (canceled)

75. (previously presented) The method according to claim 5, wherein the cationic lipid transfection agent is added in the oil phase instead of in an aqueous phase.

76. (previously presented) The method according to claim 6, wherein the cationic lipid transfection agent is added in melted fat instead of in an aqueous phase.

Claims 77-78 (canceled)

79. (previously presented) The complex according to claim 60, wherein the immunosuppressant is cyclosporin A.

80. (previously presented) The complex according to claim 69, wherein the immunosuppressant is cyclosporin A.